



NOAA in Your Backyard - The Great Lakes Region

Educational Opportunities and Education/Outreach Specialists for IL, IN, MI, MN, OH, WI, Western NY, and Western PA

NOAA in Your State – State by State Listings of NOAA Facilities and Programs

- * A summary of NOAA facilities, staff, programs, or activities based in, or focused on, your state or territory.
 - http://www.legislative.noaa.gov/NIYS/

National Weather Service – School Visits, Forecast Office Tours, Student and Educator Resources

- * The National Weather Service provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas.
 - Chicago Weather Forecast Office (Romeoville, IL) http://www.crh.noaa.gov/lot/?n=office
 Contact: Michael Bardou (Warning Coordination Meteorologist) mike.bardou@noaa.gov
 - Indianapolis Weather Forecast Station (Indianapolis, IN) http://www.weather.gov/ind/aboutus
 Contact: David Tucek (Warning Coordination Meteorologist) david.tucek@noaa.gov
 - Gaylord Weather Forecast Office (Gaylord, MI) http://www.weather.gov/apx/
 Contact: James Keysor (Warning Coordination Meteorologist) james.keysor@noaa.gov
 - Grand Rapids Weather Forecast Office (Grand Rapids, MI) http://www.weather.gov/grr/
 Contact: James Maczko (Warning Coordination Meteorologist) james.maczko@noaa.gov
 - Marquette Weather Forecast Office (Marquette, MI) http://www.weather.gov/mqt/office
 Contact: Matthew Zika (Warning Coordination Meteorologist) matthew.zika@noaa.gov
 - Detroit/Pontiac Weather Forecast Office (White Lake, MI) http://www.weather.gov/dtx/office3
 Contact: Richard Pollman (Warning Coordination Meteorologist) richard.pollman@noaa.gov
 - Twin Cities Weather Forecast Office (Chanhassen, MN) http://www.weather.gov/mpx/
 Contact: Todd Krause (Warning Coordination Meteorologist) todd.krause@noaa.gov
 - Duluth Weather Forecast Office (Duluth, MN) http://www.weather.gov/dlh/ouroffice
 Contact: Carol Christenson (Warning Coordination Meteorologist) carol-christenson@noaa.gov
 - Binghamton Weather Forecast Office (Binghamton, NY) http://www.weather.gov/bgm/
 Contact: David J. Nicosia (Warning Coordination Meteorologist) david.nicosia@noaa.gov
 - Buffalo Weather Forecast Office (Buffalo, NY) http://www.weather.gov/buf/
 Contact: Judith Levan (Warning Coordination Meteorologist) judith.levan@noaa.gov
 - Cleveland Weather Forecast Office (Cleveland, OH) http://www.weather.gov/cle/Office
 Contact: Karen Clark (Meteorologist) karen.kahl@noaa.gov
 - Cincinnati Weather Forecast Office (Wilmington, OH) http://www.weather.gov/iln/
 Contact: Brandon Peloquin (Warning Coordination Meteorologist) brandon.peloquin@noaa.gov
 - Pittsburgh Weather Forecast Office (Moon Township, PA) http://www.weather.gov/pbz/ Contact: Fred McMullen (Warning Coordination Meteorologist) - fred.mcmullen@noaa.gov
 - Green Bay Weather Forecast Office (Green Bay, WI) http://www.weather.gov/grb/ouroffice
 Contact: Jeff Last (Warning Coordination Meteorologist) jeff.last@noaa.gov
 - Milwaukee Weather Forecast Office (Sullivan, WI) http://www.weather.gov/mkx/office
 Contact: Tim Halbach (Warning Coordination Meteorologist) timothy.j.halbach@noaa.gov

Great Lakes Environmental Research Laboratory (MI) – Student Opportunities, Laboratory Facilities, NOAA Scientists

- * GLERL conducts innovative research on the dynamic environments and ecosystems of the Great Lakes to provide information for resource use and management decisions that lead to safe and sustainable ecosystems, ecosystem services, and human communities.
 - Central Offices https://www.glerl.noaa.gov/education/
 Contact: Margaret Lansing (Information Services Lead/Ecologist) margaret.lansing@noaa.gov
 - Lake Michigan Field Station (Muskegon, MI) http://www.glerl.noaa.gov/lmfs/
 Contact: Dennis Donahue (Marine Superintendent) dennis.donahue@noaa.gov



National Estuarine Research Reserve System - Field Trips, Professional Development, Educator Resources

* The National Estuarine Research Reserves System protects more than 1.3 million coastal and estuarine acres in 28 reserves located in 22 states and Puerto Rico for purposes of long-term research, environmental monitoring, education and stewardship.

- National Websites www.nerrs.noaa.gov and www.estuaries.noaa.gov
- Old Woman Creek Reserve (OH) http://wildlife.ohiodnr.gov/oldwomancreek#tabr4 Contact: Jennifer Bucheit (Education Coordinator) Jennifer.Bucheit@dnr.state.oh.us
- Lake Superior Reserve (WI) http://lsnerr.uwex.edu/education.html
 Contact: Deanna Erickson (Education Coordinator) deanna.erickson@ces.uwex.edu

NOAA National Marine Sanctuaries - Field Trips, Professional Development, Educator Resources

*NOAA's 14 National Marine Sanctuaries serve as the trustee for the nation's system of marine protected areas, to conserve, protect, and enhance their biodiversity, ecological integrity and cultural legacy.

- National Website http://sanctuaries.noaa.gov/education/welcome.html
- Thunder Bay Sanctuary (Alpena, MI) http://thunderbay.noaa.gov/education/welcome.html
 Contact: Sarah Waters (Education and Outreach Coordinator) sarah.a.waters@noaa.gov

National Sea Grant Program – Professional Development, Curriculum, Student and Educator Resources

*Sea Grant is a nationwide network of 32 university-based programs that conduct scientific research, education, training, and extension projects designed to foster science-based decisions about the use and conservation of our aquatic resources.

- Great Lakes Sea Grant Educator Resources
 - Teaching Great Lakes Science Lessons http://www.miseagrant.umich.edu/lessons/ Great Lakes FieldScope http://greatlakes.fieldscope.org/v3
- Illinois-Indiana Sea Grant http://iiseagrant.org/education.php
 Contact: Terry Hallesy (Education Coordinator) thallesy@illinois.edu
- Michigan Sea Grant http://www.miseagrant.umich.edu/education/
 Contact: Steve Stewart (Senior Extension Educator) stew@msu.edu
- Minnesota Sea Grant http://www.seagrant.umn.edu/educators/
 - Contact: Cindy Hagley (Environmental Quality Extension Educator) chagley@umn.edu
- New York Sea Grant http://www.seagrant.sunysb.edu/articles/t/focus-on-education
 Contact: Helen Domske (Education Specialist) hmd4@cornell.edu
- Ohio Sea Grant http://ohioseagrant.osu.edu/archive/education/
 Contact: Lyndsey Manzo (Education Specialist) manzol@westerville.k12.oh.us
- Pennsylvania Sea Grant https://seagrant.psu.edu/section/education
 Contact: Marti Martz (Senior Outreach Specialist Lake Erie Office) mam60@psu.edu
- Wisconsin Sea Grant http://www.seagrant.wisc.edu/home/ResourcePages/Educators.aspx
 Contact: Kathy Kline (Education Outreach Specialist) kkline@aqua.wisc.edu

Integrated Ocean Observing System (IOOS) - Curriculum, Real World Data, and Multimedia

*The Great Lakes Observing System (GLOS) is a coordinated network of people, equipment and technology working together to provide data about the Great Lakes in a variety of formats and applications.

- IOOS National Website https://ioos.noaa.gov/community/education/
- GLOS (Ann Arbor, MI) http://www.glos.us/organization/
 Contact: Kelli Paige (Executive Director) kpaige@glos.us

Great Lakes Information Network (GLIN) – Great Lakes Lessons, Calendar of Events, Background Information

- * GLIN is a partnership that provides information related to the binational Great Lakes-St. Lawrence region of North America, including data and information about the region's environment, economy, tourism, education and more.
 - Located in Ann Arbor, MI http://www.great-lakes.net/teach/about/
 Contact: Beth Wanamaker (Communications Manager) beth@glc.org



Cooperative Institute for Limnology and Ecosystems Research (CILER) – Seminar Series, Student and Educator Resources

* CILER's vision is to enhance the quality of the Great Lakes ecosystem through partnerships between universities, NOAA scientists, and other stakeholders and translate their research into productive outcomes through outreach and education.

Located in Ann Arbor, MI – http://ciler.snre.umich.edu/education
 Contact: Sonia Joseph-Joshi (Communications and Outreach Specialist) - soniajos@umich.edu

Cooperative Institute for Meteorological Satellite Studies (CIMSS) – Educator Workshops, Scholarships, Educator Resources *CIMSS is a collaboration between NOAA and the University of Wisconsin-Madison in atmospheric and Earth science utilizing satellite technology. Government, university scientists, and engineers work together on projects involving remote sensing of the Earth.

Located in Madison, WI – https://cimss.ssec.wisc.edu/education/
 Contact: Margaret Mooney (Education and Public Outreach Director) - margaret.mooney@ssec.wisc.edu

Midwestern Regional Climate Center (MRCC) – Student and Educator Resources, Climate Data, Citizen Science

* The MRCC serves the nine-state Midwest region to better explain climate and its impacts on the Midwest, provide practical solutions to specific climate problems, and develop climate information for the Midwest on climate-sensitive issues such as agriculture, climate change, energy, the environment, human health, risk management, transportation, and water resources.

• Located in Champaign, Illinois – http://mrcc.isws.illinois.edu/resources/education.jsp
Contact: Molly Woloszyn (Extension Climate Specialist) - mollyw@illinois.edu

Great Lakes B-WET – Competitive Grants for Educator Watershed Training Programs

- * B-WET is an environmental education program that promotes locally relevant, experiential learning in the K-12 environment.
 - National Website http://noaa.gov/office-education/bwet
 - Great Lakes B-WET http://thunderbay.noaa.gov/B-WET/
 Contact: Cathy Green (B-WET Great Lakes Program Manager) cathy.green@noaa.gov

National Ocean Science Bowl – Regional Competitions in the Ocean Sciences

- * The NOSB is a national high school academic competition with regional competitions for student teams to test their knowledge of the marine sciences including biology, chemistry, physics, and geology.
 - National Website http://nosb.org
 - Great Lakes Bowl (MI) http://www.miseagrant.umich.edu/education/nosb/
 Contact: Kevin Keeler (Region Coordinator) kevinmke@umich.edu/education/nosb/
 - Bay Scallop Bowl (NY) http://you.stonybrook.edu/bayscallopbowl/
 Contact: Bill Wise (Region Coordinator) william.Wise@stonybrook.edu
 - Penguin Bowl (OH/PA) http://nosb.org/compete/competitions/regional-competition-map/pennsylvania/
 Contact: Dr. Ray Beiersdorfer (Region Coordinator) rebeiersdorfer@ysu.edu
 - Lake Sturgeon Bowl (WI) http://uwm.edu/freshwater/community-outreach/sturgeon-bowl/ Contact: Liz Sutton (Region Coordinator) - sturgeonbowl@uwm.edu

Center for Great Lakes Literacy (CGLL) – *Professional Development, Curricular Resources, Scientist Connections*

* CGLL is a collaborative effort led by Sea Grant educators throughout the Great Lakes watershed to foster informed and responsible decisions that advance basin-wide stewardship by providing hands-on experiences, educational resources and networking opportunities that promote Great Lakes literacy among an engaged community of educators, scientists and citizens.

• CGLL Website – <u>www.cgll.org</u>

Local Weather Events – Local Historical Weather Data

- Twin Cities Weather Records http://www.weather.gov/mpx/mspclimate
- Minnesota Tornado Statistics http://www.weather.gov/mpx/minnesotatornadoes
- The Most Devastating Forest Fire in American History http://www.weather.gov/grb/peshtigofire
- NE Wisconsin Significant Weather Events http://www.weather.gov/grb/events
- The Edmund Fitzgerald http://www.weather.gov/mqt/Edmund-Fitzgerald



- Northern Illinois and NW Indiana Weather Events http://www.weather.gov/lot/science
- Central Indiana Weather Events http://www.weather.gov/ind/events
- Cleveland Weather Events http://www.weather.gov/cle/LocalWeatherEvents
- SE Michigan Weather and Climate Records http://www.weather.gov/dtx/clitop
- This Date in Western New York Weather http://www.weather.gov/buf/wxhis.html
- Pittsburgh Weather Events http://www.weather.gov/pbz/past
- Extreme Weather Events in Southern Wisconsin http://www.weather.gov/mkx/documented-storms
- Great Lakes Hurricane of 1913 http://www.nws.noaa.gov/com/weatherreadynation/news/131107 white.html#.VXsRzmBRfdk
- Searchable Storm Events Database http://www.ncdc.noaa.gov/stormevents/

Great Lakes Data Resources – Historical and Real-Time Data

- Great Lakes Aquatic Nonindigenous Species Information System http://www.glerl.noaa.gov/res/Programs/glansis/
- Great Lakes CoastWatch http://www.coastwatch.msu.edu/
- Great Lakes Coastal Forecasting System http://www.glerl.noaa.gov/res/glcfs/
- Rip Current Forecasts http://www.ripcurrents.noaa.gov/forecasts.shtml
- Great Lakes Bathymetry http://www.ngdc.noaa.gov/mgg/greatlakes/greatlakes.html
- North Central River Forecast Center http://www.weather.gov/ncrfc/
- Ohio River Forecast Center http://www.weather.gov/ohrfc/
- Central Great Lakes Graphical Weather Forecasts http://graphical.weather.gov/sectors/centgrtlakes.php
- National Seasonal Drought Outlook http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php
- Great Lakes Marine Forecast http://www.crh.noaa.gov/greatlakes/
- Great Lakes Beach Forecasts http://www.weather.gov/greatlakes/beachhazards
- Great Lakes Data Portal http://glos.us/data-access/data-portal
- Great Lakes Boaters' Forecast Data Tool http://glos.us/data-access/boaters-forecast
- Great Lakes Acoustic Telemetry Data (Fish Tags) http://data.glos.us/glatos

NOAA Science On a Sphere® (SOS) Locations – Earth Systems Data Shown on a 6-foot Globe

* SOS is a room-sized, global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. It was developed by researchers at NOAA to help illustrate complex environmental processes (atmospheric storms, ocean currents, climate change, etc...) in a captivating way.

- Museum of Science and Industry (Chicago, IL) http://www.msichicago.org/
- Precision Planting (Tremont, IL) http://www.precisionplanting.com/
- Cyberinfrastructure Building at Indiana University (Bloomington, IN) http://it.iu.edu/cib/
- Science Central (Fort Wayne, IN) http://sciencecentral.org/
- Great Lakes Maritime Heritage Center (Alpena, MI) http://thunderbay.noaa.gov/maritime/glmhc.html
- Detroit Zoological Society (Royal Oak, MI) http://www.detroitzoo.org/
- Science Museum of Minnesota (St. Paul, MN) http://www.smm.org/
- Wild Center (Tupper Lake, NY) http://www.wildcenter.org/
- Boonshoft Museum of Discovery (Dayton, OH) http://www.boonshoftmuseum.org/
- Whitaker Center for Science and the Arts (Harrisburg, PA) http://www.whitakercenter.org
- Aldo Leopold Nature Center (Monona, WI) http://www.naturenet.com/alnc/

